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U. S. Department of Agriculture

EUCALYPTUS TIMBER CULTURE



A Treatise on the best methods
for Sowing the Seed, Growing
the Young Plants, and Trans-
planting for Timber plantations;
together with a full description
of the best species to grow for
commercial and other purposes.



BY

THEODORE PAYNE

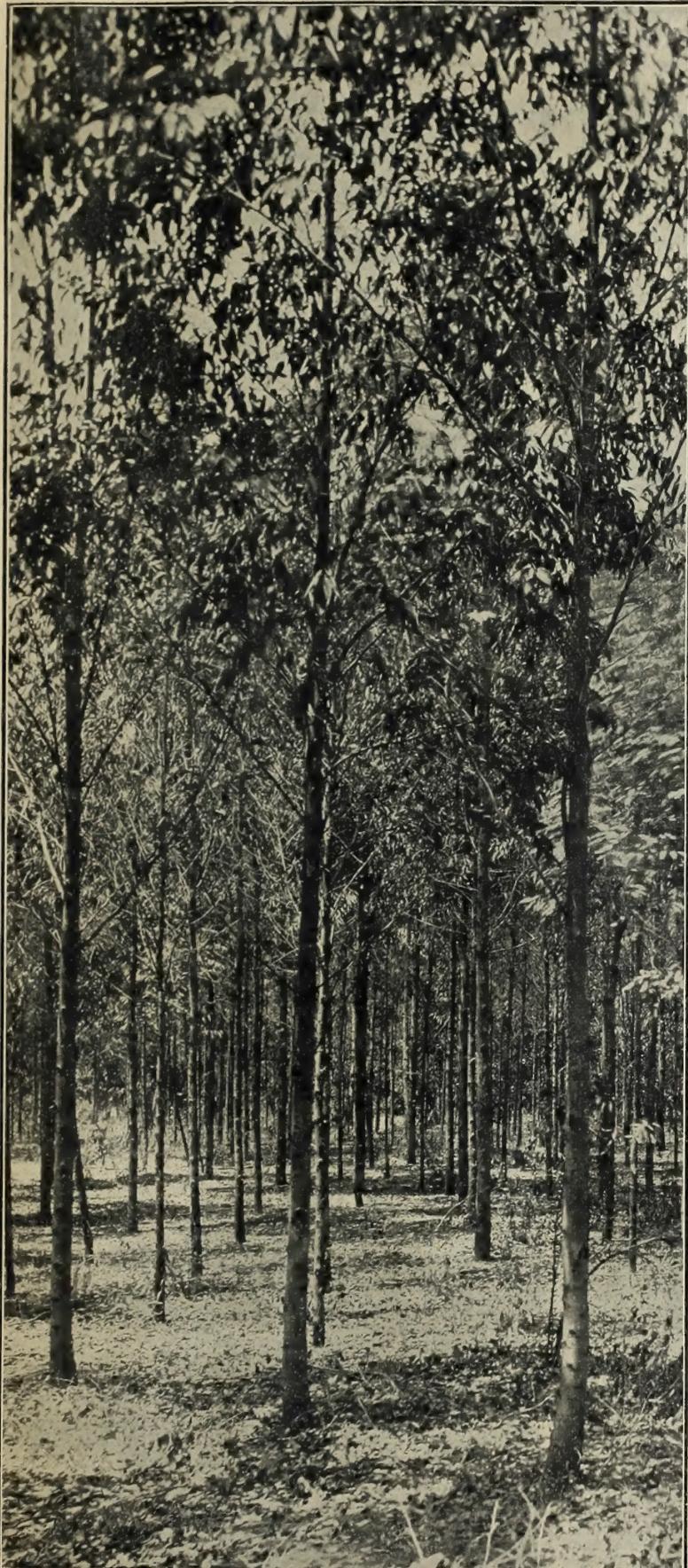
EUCALYPTUS
SPECIALIST

345 SOUTH MAIN STREET
LOS ANGELES, U. S. A.

Copyright 1912
by Theodore Payne



The illustration is from a photo-
graph of a young plantation in
California of Eucalyptus resinifera,
"Red Mahogany."



EUCALYPTUS SEEDS

HEADQUARTERS FOR EUCALYPTUS SEEDS.

I am headquarters for eucalyptus seeds, having the most extensive trade in this line of any firm in the United States, and supplying the largest planters here as well as exporting to many foreign countries. The Eucalyptus Timber Corporation, the Pratt Eucalyptus Investment Company and many other large planters have contracted with me for their entire supply of eucalyptus seeds for a number of years. To this department of my business I have devoted much study and personal attention. My seeds are carefully collected by my own men, under my personal supervision, from selected specimen trees, and are both true to name and of the very best stock obtainable. So extensive has become my trade in this line that a trifle under 1800 lbs. was the total amount of seed thus collected in one season. For a few species of which the seed cannot yet be obtained in California I am in direct communication with the most reliable authorities in Australia, who collect the seeds for me in their native habitats.



Theodore Payne and men gathering eucalyptus seeds

PHOTOGRAPH BY T. P. LUKENS

EUCALYPTUS TIMBER CULTURE.

Requirements. The requirements for propagating the seedlings are—

A lath house or lath or cloth covered frames to shade the seed beds during the day. When growing on a large scale it will pay in every case to build a lath house. Shallow boxes or flats; a good light soil and water convenient for sprinkling.

Flats or Boxes. These should be 3 inches deep and any size desired, though the size most convenient and generally used is about 20 inches square and will hold 100 plants. Some are using 18 inches square, the latter being mostly made of shakes sawed in half, using inch pieces for ends and split shakes for the sides. This makes a box 16x18x3 inches inside measurement and does very well.

Soil. This should be a good light, sandy loam passed through a screen so as to take out any lumps or stones. If good leaf mold is procurable a small quantity of this may be mixed with the soil, as it helps to retain the moisture.

Seed. Procure the best seed possible from the most reliable source; it does not pay to use cheap seed, for by getting seed not true to name the loss cannot be calculated.

Quantity of Seed. The quantity of seed to produce a given number of trees varies according to the species, as a fair average, however, 1 lb. should produce 20,000 seedlings, though as high as 30,000 has been known.

Time of Sowing. This varies somewhat according to the locality and the species to be sown. The usual time, however, is in June, or early July, and seedlings from these sowings will be ready to set out in the field by the following February; later sowings are also made in August and early part of September and these seedlings will be ready to plant out in April.

Sowing the Seed. There are two methods of sowing the seed, viz. In seed beds and seed boxes. For raising limited quantities the latter method is preferable. Fill the boxes carefully with the prepared soil, smooth off the surface and press down lightly with a board, tamping it slightly in the corners. On this smooth surface, sow the seed broadcast using about $\frac{1}{4}$ oz. of seed to a box, then cover the seed with the same kind of soil. This should be sifted over the surface through a fine-meshed sieve and not be more than $\frac{1}{8}$ of an inch deep. The boxes should then be placed in the lath house or in some place where they can be covered with lath or cloth covered frames. The soil must be kept moist at all times, the watering should be done with a pot or a loose hose-nozzle so fine as to produce nothing but a spray.

As soon as the young seedlings show through the surface great care must be exercised in watering or the seedlings will "damp off." Always water in the morning and never at night. When raising the seedlings in commercial quantities, sowing in beds is often practiced. The soil for these should be prepared in the same way as already mentioned. The surface smoothed out evenly and the seed sown and covered as already mentioned, after this cover the beds with burlap stretched over a wooden frame work. This may be laid right on the ground and kept moist. As soon as the seedlings break through the crust of the ground this should be raised a little at first and gradually up until it is a foot above the ground. As the seedlings grow and get stronger this covering may be gradually removed so that they will harden to the full sun.

Transplanting. When the seedlings are 2 to 3 inches high they are ready for transplanting, but they must first be hardened off by exposing them to the sun; transplant to the same kind of boxes as already mentioned, 100 to a box, in perfect rows or checks using the same kind of soil as that in which the seed was sown though a trifle heavier or less sandy. Fill the boxes, press down the soil and smooth off the surface then

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mark the soil off by lines into ten divisions each way and plant where lines cross, 100 to a box. This may be done by marking the edges of sides of box and using a small straight edge that will drop inside of box or any other contrivance that will check off the soil in centers of 100 to each box. A method often used by commercial growers is to have a board just the size of the inside of the box, in this are placed 100 screws, set at the right distance apart for the trees; the heads of the screws are left protruding about $\frac{1}{8}$ of an inch from the board. This board is laid on the smooth surface of the soil and hammered slightly with a wooden mallet thus making 100 impressions at the exact places for the plants. In planting make a hole for each seedling with a sharpened stick about the size of a lead pencil, firming the soil after putting in the plant. Sprinkle a thin layer of sand over the surface of the soil; this helps to hold the moisture and will keep the surface from baking. Before the young seedlings are taken from the seed box or bed they should have a thorough watering so that they will come out of the soil easily without breaking the roots which must not be allowed to dry on any account during the process of transplanting. When growing the plants for sale it is advisable to grade seedlings into sizes at the time of transplanting so that when the plants are ready for sale they will be of an even size in one box and the boxes containing the larger size plants can be sold first and the smaller ones later in the season. As soon as the seedlings are transplanted they must be watered thoroughly and set in complete shade for a few days until they thoroughly recuperate; after that they should be gradually hardened to the sun and cared for until they are ready to set out in the field.

Planting Out in the Field. The land should be plowed as deeply as possible and well harrowed. The time to plant varies according to the climatic conditions. In localities where there is little or no frost, planting may be done in the winter time, thus getting the benefit of the rains, but in sections where frost prevails it should be deferred until spring. The size at which the plants are best to set out is from 6 to 10 inches. The boxes may be taken to the field and left at convenient points. One side of the box should be taken off and each plant cut out with a square of earth and then planted with a trowel, taking care not to break this ball of earth and the plants should be set about one inch deeper than they were in the box. A quart or so of water should be given to each tree as soon as it is set and afterwards hoe a little dry soil up around each plant. The distance at which to set the young trees varies according to the species, the soil and the purpose for which they are grown. On heavy soils where irrigation is not practiced they may be planted 6x6 feet apart, where irrigating and cultivating is practiced 4x8 feet is a suitable distance and leaves an 8-foot space for plowing and irrigating. On lighter soils 8x8 feet is a good distance. Some are planting 7x8 feet on the alternate or triangle system, placing the trees 8 feet apart in the rows and 7 feet between the rows which makes the trees 8 feet apart every way. It is claimed for this system that they do not throw so much shadow and get a more even amount of sunlight, causing the trees to make a straighter and more even growth when young.

Care of the Young Trees. As the value of the grove depends largely upon the trees making a good start, it will pay wherever practical to irrigate and cultivate the trees for at least the first two seasons.

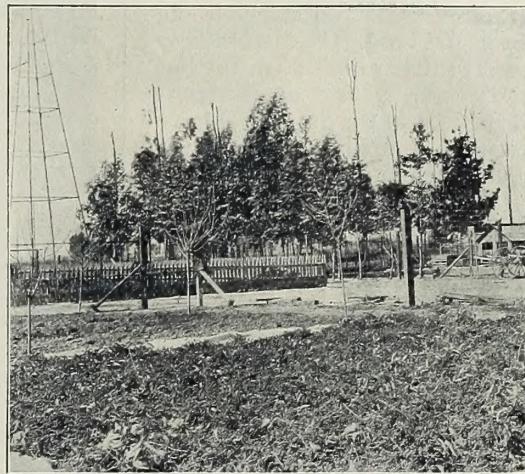
Thinning the Trees. To produce good lumber it is necessary that the trees grow straight. Close planting induces a straight growth. It is therefore better to plant closely and at the end of the first season grub out all weak and inferior trees.

Species to Plant for Profit. Eucalyptus trees are gross feeders and to be grown profitably require a deep, rich soil with a fair amount of moisture, and only under these conditions, will they make good, straight timber trees. When planted on poor or impoverished soil they make stunted, crooked trees, which are worthless for timber purposes. The best species to plant for profit depends largely upon the locality where the trees are to be grown. For general timber purposes, taking all conditions and uses into consideration, *E. tereticornis* is considered the most profitable tree to plant. But in sections where *E. globulus* "Blue Gum," thrives there will be quicker returns by planting this species than any other. For the hot interior sections *E. tereticornis* and *E. rostrata* are recognized as the leading commercial kinds, while *E. viminalis* might be grown very profitably under the same conditions. In localities not subject to frost *E. corynocalyx* may be planted. For those who have the right conditions and can afford to wait longer for returns, *E. resinifera* will probably prove one of the most profitable on account of its very valuable wood, which is used for furniture and interior finishing and is imported very largely by railway companies for the inside of cars under the trade name of Australian Mahogany.

Species for Fence Posts. This is an important item on large ranches. By setting aside a small portion of land a great quantity of fence posts could be produced in a few years. The best species for this purpose are *E. tereticornis*, *E. robusta*, *E. rostrata* and *E. corynocalyx*.

Species for Wind-breaks. This is also of great importance in many parts of the country where heavy winds prevail. Probably the best species for this purpose are *E. glabulosa*, *E. botryoides*, *E. robusta*, *E. cornuta*, *E. diversicolor* and *E. polyanthema*, and for irrigated sections on the desert, *E. rufa*.

Eucalyptus amygdalina. "Peppermint Gum." An exceedingly tall growing tree; in fact, to this species belong probably the tallest trees in the world. Baron Von Mueller having recorded trees over 400 feet high and with diameters of 18 to 35 feet. The tree is very variable in growth, however, the great heights mentioned being attained in moist ravines; under less favorable conditions it forms a much smaller tree, and in some cases is comparatively dwarf. The timber is useful for shingles, flooring, etc., but does not usually last well underground. One of the most valuable for oil, producing more volatile oil than any other species yet tested. Recommended for planting in swamp places as a preventative for yellow fever, etc. Pkt. 15c, oz. 75c, lb. \$7.50.



Eucalyptus seed vessels, spread out on canvas to dry
PHOTOGRAPH BY T. P. LUKENS

E. amygdalina, var. angustifolia. See *E. linearis*.

E. amplifolia. Much resembling *E. tereticornis*, but having large, almost round leaves when in the young state; generally known in California as the "Cooper" or "Round-leaf tereticornis." In correspondence I received from Professor J. H. Maiden in regard to this tree he states that it is known botanically under the above name, under which it was described by Naudin. Professor Maiden states, however, that it is possible that this tree should, properly speaking, be treated as a variety of *E. tereticornis*, but he is not prepared to say further until he deals with *E. tereticornis* and its varieties in his "Critical Revision of the Genus Eucalyptus and Forest Flora of New South Wales." The wood is similar to that of *E. tereticornis*, and this tree has been planted quite extensively in California for commercial purposes. It forms a handsome tree, and is valuable for ornamental purposes. Pkt. 15c, oz. \$1.00, lb. \$10.00.

E. bosistoana. "Bairnsdale Grey Box." A tree of medium size, most suited to the coast sections, but has not yet been thoroughly tested in California. Mr. J. Blackburne, Forest Inspector of Maryborough, Victoria, Australia, speaks of this tree as follows: "It produces a clean, sound wood, much esteemed for the construction of wharves, jetties and bridges. It grows to large dimensions. Trees are to be found in South Victoria containing 20,000 feet super of timber. It furnishes also good railway sleepers and street paving blocks. This Eucalypt grows naturally near the coast and is never found far inland." Pkt. 15c, oz. \$1.50.

E. botryoides. "Bastard Mahogany, or Bangalay." Grows to a fairly large size, reaching 75 to 150 feet when fully grown. Of stately appearance with large, leathery green foliage; succeeds well near the coast and is of very rapid growth; one of the best for shade purposes and wind-breaks. The wood is very durable, adapted for wagon building, knees of boats, etc. Pkt. 15c, oz. 75c, lb. \$7.50.

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E. calophylla. A moderate sized tree, thriving in warm, moist situations near the coast, but not enduring much cold. It is one of the most ornamental of the genus, has very large, glossy leaves and large clusters of white flowers which are valuable for bees. The wood is useful for rafters, spokes, fence rails, handles of agricultural implements, etc.; one of the very best for planting as a street tree. Pkt. 15c. oz. \$1.00.

E. capitellata. "Mountain Stringy-bark." A large tree with rough, stringy bark, and thick, leathery leaves. It is best adapted to cool, moist land near the coast. It is said to furnish a valuable lumber, but in California it has only been grown as an ornamental species. Pkt. 15c. oz. \$1.00.

E. citriodora. "Lemon-scented Gum." A fast-growing species soon becoming tall and slender. In favorable situations it has attained a height of 60 to 100 feet in 10 or 15 years. It thrives best near the coast, but will not endure much frost and is not adapted to the warm, interior valleys. The wood is strong and durable, useful for fencing, implement handles, shipbuilding, paving, railway ties, bridge building, telegraph poles, also for inside work of houses, carriage building and railway cars. Pkt. 15c. oz. \$1.50.



Eucalyptus globulus

E. cornuta. "Yate Tree." A medium size tree of fairly rapid growth. It endures high temperatures, but not heavy frosts; thrives well near the coast and will endure the hot summers of the interior valleys. Grows remarkably well in alkali land. One of the best for shade trees. The wood is very hard and heavy and according to tests of the Australian Government is the strongest wood in the world. It is used for various artisans' work and is preferred for the strongest parts of carts, wagons and other work requiring hardness, toughness and elasticity. Pkt. 15c. oz. \$1.00.

E. cornuta, var. lehmanni. A rather small tree with thick spreading branches and of great value for ornamental purposes. Pkt. 15c. oz. \$1.00.

E. corynocalyx. "Sugar Gum." 120 feet. This tree succeeds in a great variety of climates; thrives near the coast and does equally well in the interior and in the hot valleys of Arizona, but will not stand much frost. It is considered the most drought-resisting of all and is one of the best for planting on dry hillsides. The wood is one of the strongest and is very durable, useful for railway ties and underground work. Pkt. 15c. oz. \$1.00, lb. \$9.00.

E. crebra. "Narrow-leaved Ironbark." 100 feet. It succeeds under a great variety of climatic conditions, notwithstanding great extremes of heat and cold. The wood is hard, elastic and of a reddish color; very durable under ground and used for railway ties, poles, piles, etc. Pkt. 15c. oz. \$1.00.

E. diversicolor. "Karri Gum." One of the most magnificent of all trees, specimens having been recorded in Australia nearly 400 feet high. It grows quickly and forms a straight trunk. Succeeds best in fairly moist situations near the coast and will thrive on alkali land. It is also one of the most handsome for avenue planting. The wood is very strong and used for masts of ships, wagon building, etc. Pkt. 15c. oz. \$2.00.

E. ficifolia. "Scarlet-flowering Gum." 30 feet. A very ornamental species with large, leathery leaves and immense clusters of large, bright crimson flowers. 25 seeds 25c, 100 seeds 85c.

E. globulus. "Blue Gum." The best known species and one of the most important of the genus, also the fastest growing of all. The usual height in Australia is 200 to 300 feet. In California trees 30 years old have attained the height of 150 feet and a diameter of 3 to 6 feet. It is usually of erect growth, succeeds best near the coast and on account of its rapid growth is probably the most profitable tree to plant. The wood is durable above ground; large quantities of it have been sawed at San Jose, Cal., for felloes, poles, reaches and singletrees of wagons, flooring, insular pins and anything requiring strength. It takes a fine polish and is valuable for furniture and interior finishing. Pkt. 15c. oz. 50c, lb. \$5.00.

E. gomphocephala. "Tooart." A medium sized tree attaining a height of 120 feet. It succeeds well in California, near the coast, but has not been thoroughly tested in the interior. The wood is one of the strongest in the world and is principally used for shipbuilding and bridges. Pkt. 15c. oz. \$1.00, lb. \$10.00.

E. goniocalyx. "New South Wales Blue Gum." A large tree, reaching a height in Australia in favored situation of 300 feet. It succeeds well in California in the coast regions. The timber is hard and tough, used for wheelwrights' work and shipbuilding. Pkt. 15c. oz. \$1.00.

E. gunni. "Tasmanian Cider Tree." This is one of the hardest of the genus. In its native habitats it grows in low lands where it forms a fair sized tree and sometimes reaches 150 feet or more. It also ascends the mountains to an elevation of 5000 feet, but here becomes a dwarf tree or mere shrub. It is extremely hardy, growing where there is snow for several months in the year. Should prove one of the best for planting in our mountains for forest cover. The wood is used for various artisans' work. Pkt. 15c. oz. \$1.00, lb. \$10.00.

E. hemiphloia. "Common Box." 100 to 150 feet. It thrives in California near the coast and also in the hot interior valleys, standing extremes of heat and cold. One of the best for shade purposes. The timber is strong, close grained and used for wheelwrights' work, piles, railway ties, posts, etc. Pkt. 15c. oz. 75c, lb. \$7.50.

E. leucoxylon. "Victorian Ironbark." 100 feet. The trees are apt to grow crooked but by giving them some attention when young they may be made to grow straight. This species will grow in a greater variety of climates than most eucalypts, thriving near the coast or in the hot desert valleys of the interior and will endure minimum temperatures of 15 degrees to 20 degrees F. It is one of the best for forest cover. The wood is hard and durable, exceeding hickory in strength; used for railway ties, mining purposes, wagon building, shipbuilding, etc. Pkt. 15c. oz. \$1.00, lb. \$10.00.

E. leucoxylon, var. rosea. A variety of the preceding, having beautiful pink flowers, and of great value as an ornamental tree, and can be grown in localities where E. ficifolia will not thrive. Pkt. 15c. oz. \$1.50.

E. linearis. An ornamental species of somewhat weeping habit, with small, very narrow leaves. It has been known in California, though wrongly, under the name of E. amygdalina, var. angustifolia. Pkt. 15c. oz. \$2.00.

E. longifolia. "Woolly Butt." A moderate sized tree, but in Australia under favorable conditions has sometimes reached a height of 200 feet. In California it thrives best near the coast. The timber is useful for posts, ties, street paving, etc. Pkt. 15c. oz. 75c.

E. maculata. "Spotted Gum." Attains a height of 150 feet, growing remarkably straight. The wood is used for shipbuilding, wheelwrights' and coopers' work. It is closely allied to E. citriodora, and succeeds under the same conditions. Pkt. 15c. oz. \$1.00.

E. melliodora. "Yellow Box." A fair sized tree, reaching a height of 120 to 150 feet. In California it thrives near the coast, on the sides of low mountains and in warm, dry interior valleys. The wood is hard and durable, used for wheelwrights' work, shipbuilding and supplies one of the best fuels. The young trees have been used for telegraph poles. On account of its profuse fragrant blossoms it is one of the best as a source of honey for bees. Pkt. 15c. oz. \$1.25.

E. muelleriana. "Yellow Stringy-bark." A tree of medium size, best suited to the coast region, but it has not been thoroughly tested in California. The wood is remarkably durable. Mr. J. Blackburne speaks of the timber of this tree as follows: "A fence erected of this timber at Greemount, near Yarram, in Gippsland, sixty years ago is at the present time sound and in use. The posts of another one on the old Cascade run (Gippsland) are still in good order after being in the ground for seventy years." Pkt. 15c. oz. \$1.50.

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E. obliqua. "Stringy-bark." A tall, straight-growing tree, sometimes attaining a height of 300 feet in Australia. In California it grows fairly well near the coast but does better some distance inland; will not succeed, however, in the hot, dry interior valleys. The timber is straight and easily split, used for rough building purposes, shingles, etc. Pkt. 15c, oz. 75c.

E. pilularis. "Black Butt." In Australia under favorable conditions it has attained a height of 300 feet, but the average height is 100 to 150 feet. In California it succeeds well near the coast but will not thrive in the hot, interior valleys. The timber is strong and durable, useful for house building, shipbuilding, bridges, telegraph poles and railway ties. Pkt. 15c, oz. \$1.00, lb. \$10.00.

E. piperita. "White Stringy-bark." A fair sized tree. It succeeds well near the coast and in cool, inland situations. The timber is easily split and used for fencing and general building purposes. Pkt. 15c, oz. \$1.00.

E. polyanthemum. "Red Box." In Australia this tree attains a height of 150 feet or more. In California it thrives under a great variety of climatic conditions. It grows near the coast, in the foothills and mountains and in the hot, dry valleys of the interior. It is one of the most ornamental species; the leaves are nearly round and with a silvery lustre; the flowers are small, white, in large clusters and are a great source of honey. The wood is extremely hard and lasting, used for railway ties, mining purposes and wheelwrights' work. It is of a light color and takes a good polish. Pkt. 15c, oz. 75c, lb. \$8.00.

E. punctata. "Leather-jacket." A medium sized tree attaining a height of 100 feet in Australia. In California it succeeds best near the coast, though some fine specimens are to be seen in Riverside. The young trees at the Forestry Station at Santa Monica have made a rapid growth and grown remarkably straight. The wood is one of the strongest, of a light brown color, very hard and durable, useful for railway ties, wagon work and other purposes. This species promises to be one of the best for planting commercially in situations near the coast. Pkt. 15c, oz. \$1.00, lb. \$10.00.

E. resinifera. "Red Mahogany." 100 feet or more. This tree thrives in the coast regions and is suited to moist semi-tropical climates, but will not thrive in the hot interior valleys and will not resist severe frost. The trees are of remarkably straight growth. It has been said that this tree is of slow growth, but trees on the dry mesa near Santa Monica have made a growth that compares favorably with many of the foremost species. The wood is of a rich, red color, resembling true Mahogany; it takes a fine polish and makes the most beautiful furniture. The offices of the Southern Pacific Railway on the ground floor of the Grosse Building are finished with this wood. The timber is very strong, hard and durable and is used in Australia for piles, posts, paving and general building purposes. Pkt. 15c, oz. \$1.00, lb. \$10.00.

E. robusta. "Swamp Mahogany." 100 feet. This tree thrives best in low, moist land, but has been grown under many varying conditions. It is symmetrical in growth when young and has been largely planted as a street tree and for wind-breaks. It has large, glossy foliage and white flowers which are valuable for bees. The wood is brittle and not very valuable, but is durable under ground. Pkt. 15c, oz. 60c, lb. \$6.00.

E. rostrata. "Red Gum." In Australia it is said to attain a height of 200 feet under favorable conditions. It succeeds under a greater variety of conditions and soils than probably any other species, growing well on moist land near the coast and in the hot interior valleys, standing extremes of heat and cold. It has done remarkably well at Imperial and all other irrigated sections on the desert. When grown near the coast it is not of rapid growth, but in the hot interior sections it grows quickly, making about the same growth as the "Blue Gum" will in the coast regions. This tree has been planted very extensively and is recognized as one of the best commercial species for the hot interior sections. The wood is strong and durable, useful for railway ties, piles, street paving, fence posts, etc. It takes a fine polish and is used for cabinet work. Pkt. 15c, oz. 50c, lb. \$5.00.

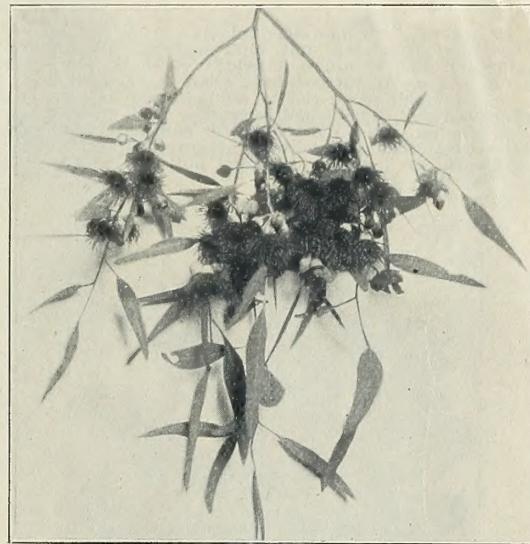
E. rudis. 75 to 100 feet. One of the best for street planting. It stands extremes of heat and cold; thrives near the coast and has grown so well in irrigated sections on the desert that it has been termed by some "The Desert Gum." Pkt. 15c, oz. \$1.00, lb. \$10.00.

E. siderophloia. "Broad-leaved Ironbark." 100 feet. This tree thrives in California, in the coast regions, but is not suited to the dry, hot interior valleys. The wood is very strong and durable, useful for wagon building, railway ties, etc. Pkt. 15c, oz. \$1.00.

E. sideroxylon. "Red Ironbark." A medium sized tree. In California it succeeds on dry soils near the coast and on plains and hillsides further inland and will endure minimum temperatures of 16 degrees to 20 degrees F. The wood is of a dark red color, hard and heavy, useful for railway ties, bridges, wagon work, etc. Pkt. 15c, oz. \$1.00.

E. sideroxylon, var. rosea. A variety of the preceding, with deep pink flowers, which contrast well with the dense silvery gray foliage. By many this is considered the most ornamental of all the eucalypts. Pkt. 15c, oz. \$1.50.

E. stuartiana. "Apple-scented Gum." A medium sized tree. It thrives near the coast and will endure minimum temperatures of 10 degrees to 18 degrees F., and can be planted at higher elevations than most species. The wood is mostly used for fence posts and for fuel; it is also useful for furniture manufacture, being of a dark color and taking a good polish. Pkt. 15c, oz. \$1.00.



Eucalyptus sideroxylon, var. rosea

E. tereticornis. "Forest Red Gum." 150 feet. One of the very best for commercial use, closely allied to *E. rostrata*, but forming a straighter tree. For general timber purposes I believe this is the best of the whole genus, taking all conditions and uses into consideration. It stands considerable heat and cold, thrives in sections near the coast, further inland in the hot interior valleys and in irrigated sections of the desert. Under the latter conditions it makes a remarkably rapid growth. This tree has been planted on a very large scale in California and also in other countries. I have received very favorable reports of it from Arizona, Texas, Florida and also Brazil. The wood is of a pretty, reddish color, heavy, strong and durable, valuable for railway ties, telegraph poles and for furniture and interior finishing of houses. In 1910 I cut a number of trees of this species and had these cut up into lumber. The wood has a fine grain and is really the most beautiful eucalyptus wood I have ever seen. A table I have had made from this wood has been greatly admired by everyone who has seen it, and many think it superior to mahogany. The seed I am offering is extra selected stock, from the very best specimen trees. Pkt. 15c, oz. 75c, lb. \$7.50.

E. tereticornis. "Cooper or Round-leaf." See *E. amphilolia*.

E. viminalis. "Manna Gum." In Australia this tree has attained to a height of 300 feet with a diameter of 15 feet. It is an exceedingly handsome tree with long, pendulous branches, and is one of the most picturesque for avenue planting. This tree will thrive under a great variety of conditions, growing near the coast, also in irrigated sections on the deserts of California and Arizona. It stands considerable heat and cold and will thrive at a higher altitude than most of the other species. In the coastal regions it is of very rapid growth, being only rivaled in this respect by the "Blue Gum," while in the hot interior sections it is unsurpassed by any other species. The wood is not lasting under ground, and is not so hard and has not the strength of many of the other eucalypts; for this reason it has been neglected by timber planters in California. The fact that the wood is softer than other kinds should really be regarded in its favor, as it is so much easier and less expensive to work than the "Blue Gum" and most of the other kinds. Still it is as hard as many of the so-called hardwoods that are now used. It takes a high polish, and its chief uses would be for furniture and all kinds of interior work. The fact that the tree will thrive over a wide range of country and also that it is of such rapid growth should make it one of the most valuable for timber plantations. Pkt. 15c, oz. 75c, lb. \$7.50.

Eucalyptus tereticornis

"Forest Red Gum"

The eucalyptus tree par excellence to plant for its

Fine Wood

which is admirably adapted for furniture, interior finishing, telegraph poles, piling, railway ties, and wherever a strong and durable wood is demanded.



THIS tree will stand considerable heat and cold. It thrives near the coast, further inland, in the hot interior valleys, and in the irrigated sections of the desert. I have received most favorable reports of it from Arizona, Texas, Florida, Mexico, Brazil and other countries. In fact it appears to thrive under as great a variety of conditions as possible for any eucalypt. The tree is of remarkably straight growth. In the hot interior sections it grows very rapidly, while near the coast it is only surpassed in this respect by a few species. The wood is strong and durable, lasting both under ground and under water. It has a fine grain, is of a pretty red color, and takes a high polish.

The illustration is from a photograph of part of a row of *E. tereticornis* trees which I cut in the winter of 1910. In this row were 71 trees, six of which went to the National Forest Service to be used in a piling test in San Francisco Bay; the remainder I had cut into lumber, and have now a large quantity on hand. I had exceptionally good success in seasoning it, and will shortly have it manufactured into bureaus, library tables, writing desks, and other choice home and office furniture.



THEODORE PAYNE

EUCALYPTUS
SPECIALIST

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